

Application/Control Number: 10/795,816

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Art Unit: 3700

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1. An oral hygiene device, comprising:

a mouth tray adapted to direct a cleaning solution over at least a portion of a user's dental and gum structures; and,

a light carrier in communication with at least a portion of said mouth tray, said light carrier adapted to facilitate light-activated bleaching processes.

2. The oral hygiene device of Claim 1, wherein said mouth tray comprises an inner manifold formed therethrough.

3. The oral hygiene device of Claim 2, wherein said mouth tray further comprises a plurality of orifices disposed over at least a portion thereof, said plurality of orifices in fluid communication with said manifold.

4. The oral hygiene device of Claim 3, wherein a dispersion pump delivers the cleaning solution from a dispersion reservoir through a dispersion tube in fluid communication with said manifold of said mouth tray, and wherein the cleaning solution enters said manifold for

subsequent expulsion of the cleaning solution through said plurality of orifices.

5. The oral hygiene device of Claim 4, wherein said dispersion pump delivers the cleaning solution through said dispersion tube in a pulsating manner for pulsating dispersions of same through said manifold, and thereafter, through said plurality of orifices of said mouth tray for the forceful dispersion of the cleansing solution over the user's dental and gum structures, thereby affording the micro-chemical or micro-mechanical scrubbing, loosening and removal of bacterial plaque, tartar and food particulate from same.

6. The oral hygiene device of Claim 5, wherein the pulsating delivery and dispersion of the cleaning solution by said dispersion pump is followed by a period of interruption of delivery of the cleaning solution by said dispersion pump, thereby affording the dispersed cleaning solution an opportunity to contact the user's dental and gum structures for the micro-chemical or micro-mechanical scrubbing, loosening and removal of bacterial plaque, tartar and food particulate from same.

7. The oral hygiene device of Claim 6, wherein said mouth tray further comprises a collection tube carried thereby.

8. The oral hygiene device of Claim 7, wherein said collection tube is in communication with a collection pump, said collection tube and said collection pump facilitating the suctioning and conveyance of dirty cleaning solution from the user's mouth to a collection reservoir or evacuation and drainage means.

9. The oral hygiene device of Claim 8, wherein said dispersion reservoir comprises a dentition cleaning solution reservoir and a gingival cleaning solution reservoir for receiving dentition cleaning solution and gingival cleaning solution, respectively, for selective delivery of same through said dispersion tube for application over at least a portion of the user's dental and gum structures.

10. The oral hygiene device of Claim 9, wherein said dentition cleaning solution reservoir, said gingival cleaning solution reservoir, and said collection reservoir

are removable for the rinsing, cleansing and disinfection of same.

11. The oral hygiene device of Claim 1, wherein said light carrier is selected from the group consisting of side-emitting fiber optic light lines, flat woven fiber optic panels, flat woven fiber optic strips, side-emitting fiber optic light lines, lasers, blue light, light-emitting diodes, edge-emitting diodes, surface-emitting diodes, and combinations thereof.

12. The oral hygiene device of Claim 11, wherein said light carrier is integrally formed with said mouth tray.

13. The oral hygiene device of Claim 12, wherein said light carrier is adapted to activate a light-activated bleaching compound applied to at least a portion of the user's dental structure to facilitate, expedite and enhance the bleaching or whitening thereof.

14. An oral hygiene device, comprising:

a mouth tray adapted to direct a plurality of forceful, pulsating, multi-directional jet-like streams of

a cleaning solution over and between at least a portion of a user's dental and gum structures; and,

a light carrier in communication with at least a portion of said mouth tray, said light carrier adapted to facilitate light-activated bleaching processes.

15. The oral hygiene device of Claim 14, wherein said mouth tray comprises an anterior wall, a posterior wall, and a bridge integrally formed therewith and therebetween.

16. The oral hygiene device of Claim 15, wherein said anterior wall, said posterior wall, and said bridge comprise a common manifold formed therethroughout.

17. The oral hygiene device of Claim 16, wherein said anterior wall, said posterior wall, and said bridge further comprise a plurality of orifices disposed over at least a portion thereof, said plurality of orifices in fluid communication with said manifold.

18. The oral hygiene device of Claim 17, wherein a dispersion pump delivers the cleaning solution from a dispersion reservoir through a dispersion tube in fluid

communication with said manifold of said mouth tray, and wherein the cleaning solution enters said manifold for subsequent expulsion of the cleaning solution through said plurality of orifices as a plurality of forceful, pulsating, multi-directional jet-like streams.

19. The oral hygiene device of Claim 18, wherein the forceful and pulsating delivery and dispersion of the cleaning solution over and between at least a portion of the user's dental and gum structures is followed by a period of interruption of dispersion of the cleaning solution, thereby affording the dispersed cleaning solution an opportunity to contact the user's dental and gum structures for the micro-chemical or micro-mechanical scrubbing, loosening and removal of bacterial plaque, tartar and food particulate from same.

20. The oral hygiene device of Claim 19, wherein said mouth tray further comprises a collection tube carried thereby.

21. The oral hygiene device of Claim 20, wherein said collection tube is in fluid communication with said

manifold of said mouth tray, and wherein said collection tube, via assistance from a collection pump, facilitates the suctioning and conveyance of dirty cleaning solution from the user's mouth back through said plurality of orifices of said mouth tray, through said collection tube, and into a collection reservoir or evacuation and drainage means.

22. The oral hygiene device of Claim 20, wherein said collection tube extends through said anterior wall, through said bridge, and exists through said posterior wall, thereby creating a collection orifice.

23. The oral hygiene device of Claim 22, wherein said collection tube is in communication with a collection pump, said collection tube and said collection pump facilitating the suctioning and conveyance of dirty cleaning solution from the user's mouth through said collection orifice, through said collection tube, and into a collection reservoir.

24. The oral hygiene device of Claim 14, wherein said light carrier is selected from the group consisting of



side-emitting fiber optic light lines, flat woven fiber optic panels, flat woven fiber optic strips, end-emitting fiber optic light lines, lasers, blue light, light-emitting diodes, edge-emitting diodes, surface-emitting diodes, and combinations thereof.

25. The oral hygiene device of Claim 24, wherein said light carrier is integrally formed with said anterior wall of said mouth tray.

26. The oral hygiene device of Claim 25, wherein said light carrier is adapted to activate a light-activated bleaching compound applied to at least a portion of the user's dental structure to facilitate, expedite and enhance the bleaching or whitening thereof.

Claims 27-28 (Cancelled)